

CLAIMS

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1. Method for auto-configuration of a new node (204) to act like a router, the node being a part of an IP intranetwork (301), the IP intranetwork (301) comprising routers (201, 302) interconnected via Point to Point links (202),

The method comprising the steps of

establishing (101) a physical connection between the new node (204) and an existing router (201) within the intranetwork (301);

establishing (102) a Point to Point link (202) between the new node (204) and the existing router (201), over the physical connection;

requesting and retrieving (103) an IP address to make IP communication possible between the new node (204) and the existing router over the Point to Point link (201);

automatically identifying (104) the resources (205) which are essential for retrieving configuration information for the new node (204);

automatically configuring (105) the new node (204) by means of the configuration information; and

starting (103) a routing protocol to establish network connectivity between the new node (204) and the rest of the intranetwork (301).

2. The method according to claim 1 comprising the further step of

providing the existing router (201) with IP addresses, identifying said essential resources, thus making it possible for the new node to obtain the configuration information from the essential resources (205) via the existing router.

- 5 3. The method according to claim 1, wherein the method comprising the further steps of

providing the new node (204) with standard host names defined for the essential resources (205);

obtaining a DNS (Domain Name System) address during set-up (102) of the Point to Point link; and

using the DNS server (303) to resolve the hostnames into IP addresses thus making it possible for the new node (204) to find the configuration information at the essential resources (205).

- 10 15 4. The method according to claim 1 comprising the further steps of

obtaining a DHCP (Dynamic Host Configuration Protocol) address during the establishing (102) of the Point to Point link ; and

using the DHCP server address, to identify the essential resources (205) which provide the configuration information.

- 20 5. The method according to claim 1 comprising the further step of

contacting one of the essential resources (205;) to obtain routing protocol e.g. OSPF (Open Shortest Path First) configuration information.

6. The method according to claim 1, wherein the step starting (105) a routing protocol is performed by,

sending a so-called "hello-message" to inform the other routers (302) within the intranetwork (301) that a new router (204) is from now a part of the intranetwork (301).

7. The method according to claim 1 wherein the IP intranetwork is a part of a BSS (Base Station System) (401) within a cellular system and the new node (407), to be configured to work like a router, is co-located with a BTS (Base Transceiver Station) within the Intranet.

8. The method according to claim 1 wherein a set of new nodes (601; 602; 603; 604) to be autoconfigured is added to the existing router, in cascade, wherein the first new node (01), connected to the existing router (404), is autoconfigured according to the steps in claim 1, and then comprising the further steps

starting the autoconfiguring of the new node closest connected to the last configured router; and

repeating the former step until all nodes in the set are autoconfigured.

9. Router (201) **characterised by** comprising means for detecting (203) a new added node (204) connected to the router (201) via a Point to Point link (202), the router (201) having connections to essential resources (205) which are provided with configuration information so that the new node (204), via the router

(201), can identify the essential resources (205), obtain configuration information and automatically be configured to start to act like a router.

5 10. The router (201) according to claim 9 **characterised** in that at least one of the essential servers is a so-called RA (Resource Allocation) server (306), handling on-demand resource allocation, the RA having means for automatically obtaining configuration information about the intranetwork (301).

a 10 11. The router according to claim 9 ~~or 10~~ **characterised** in that at least one of the essential resources is a so-called DRC (Dynamic Router Configuration) server (305) having means for automatically generate the configuration information to the new node.

a 5 12. The router according to claim ~~any of the claims 9-11~~ **characterised** by the (201) router being co-located with a BTS (Base Transceiver Station) (403).

13. The router according to claim 12 **characterised** in that the new added node to be automatically configured is a BTS (407).

a 20 14. IP intranetwork (301), comprising at least one router according to ~~any of the claims 9-12~~, the at least one router communicating via Point to Point links (201), **characterised** in further comprising essential resources (304; 305; 306) being provided with configuration information and that a new node (204) being added to

the existing router (201), is automatically configured to start to act like a router, within the intranetwork (301), by means of the configuration information.

5 15. The IP intranetwork (301) according to claim 14 **characterised** in that at least one of the essential resources is a so-called DRC (Dynamic Router Configuration) server (305) being capable of automatically generating the configuration information to the new node (204).

10 16. The IP intranetwork (301) according to claim 14 ~~or 15~~ **characterised** in that at least one of the essential servers is a so-called RA (Resource Allocation) server (306) being capable of automatically obtaining configuration information about the intranetwork (301) and handling on-demand resource allocation.

15 17. The IP intranetwork according to claim 9 **characterised** by the IP intranetwork being a part of a BSS (Base Station System) (401) within a cellular system comprising a BSC (Base Station Controller) (402) co-located with a router (406) and at least one BTS (Base Transceiver Station) (403) co-located with a router, BSCs and BTSs being interconnected via Point to Point link (202).

20 18. The IP intranetwork according to claim 12 **characterised** in that the new node is a BTS (407), which is added to an existing BTS (403) and is autoconfigured to act like a router.